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 FAGIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250
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SUBJECT: Provides info in response to request re application of leak before break technology to primary coolant sys piping.

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Re: Turkey Point Units 3 and 4
Docket Nos. 50-250 and 50-251
Application of Leak Before Break
Technology to Primary Coolant System Piping

The following information is provided in response to a request from Dr. Gordon Edison, NRC Project Manager, regarding the application of leak before break technology to the primary coolant system piping at Florida Power & Light Company's (FPL) Turkey Point Plant.

In Generic Letter 84-04 dated February 1, 1984, "Safety Evaluation of Westinghouse Topical Reports Dealing With Elimination of Postulated Breaks in PWR Primary Main Loops," the NRC Staff provided a safety evaluation of its review of Westinghouse Topical Reports WCAP 9558, Revision 2 (May 1981), "Mechanistic Fracture Evaluation of Reactor Coolant Pipe Containing a Postulated Circumferential Throughwall Crack," and WCAP 9787 (May 1981), "Tensile and Toughness Properties of Primary Piping Weld Metal for Use in Mechanistic Fracture Evaluation," and Letter Report NS-EPR-2519, E. P. Rahe to D. G. Eisenhut (November 10, 1981), "Westinghouse Response to Questions and Comments Raised by Members of ACRS Subcommittee on Metal Components During the Westinghouse Presentation on September 25, 1981." These reports were submitted to address asymmetric blowdown loads on the PWR primary systems that result from a limited number of discrete break locations as stipulated in NUREG-0609, the NRC Staff's resolution of Unresolved Safety Issue A-2, Asymmetric Blowdown Loads on the Reactor Coolant System.

The Staff evaluation concluded that an acceptable technical basis had been provided so that asymmetric blowdown loads resulting from double ended pipe breaks in main coolant loop piping need not be considered as a design basis for the Westinghouse Owner's Group plants considered in the Westinghouse evaluation, provided certain conditions were met, one of which is applicable to Turkey Point. That condition requires that leakage detection systems be sufficient to provide adequate margin to detect the leakage from the postulated circumferential throughwall flaw utilizing the guidance of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," with the exception that the seismic qualification of the airborne particulate radiation monitor is not

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an FPL Group company



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necessary. At least one leakage detection system with a sensitivity capable of detecting 1 gpm in 4 hours must be operable.

The requirements for leakage detection systems are included in Technical Specification 3.1.3 for Turkey Point. FPL has reviewed those requirements and determined that they satisfy the condition discussed above. In addition, the NRC has reviewed the leakage detection capability at Turkey Point both following the conoseal leak on Turkey Point Unit 4, and as part of the FPL response to Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary Components in PWR Plants" which required that licensees address, among other things, procedures for locating small coolant leaks (i.e. leak rates at less than technical specification limits).

Since the Turkey Point Plant is bounded by the Westinghouse analysis and the leak detection systems are capable of detecting the specified leakage, dynamic effects associated with postulated pipe breaks in primary coolant system piping can be excluded from the Turkey Point Plant design basis.

Should you have any questions, please contact us.

Very truly yours,


W. F. Conway
Senior Vice President - Nuclear

WFC/TCG/gp

cc: Malcolm L. Ernst, Acting Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, Turkey Point Plant

